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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/599,282

09/25/2006

Paul T. Wegener

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Rutan & Tucker, LLP.

611 ANTON BLVD

SUITE 1400

COSTA MESA, CA 92626

EXAMINER

JETTON, CHRISTOPHER M

ART UNIT

PAPER NUMBER

4185

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/599,282	Applicant(s) WEGENER ET AL.	
	Examiner CHRISTOPHER JETTON	Art Unit 4185	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/30/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, and 4-14 are rejected under 35 U.S.C. 102(b) as being anticipated by **Grinsted (US 6,731,018 B1)**.

Regarding claims 1, 2, 4, and 5, Grinsted discloses a water generator where hydroplanes (22) are submerged (Col 5 Line 40) and connected to the sides of a tank (10). The hydroplanes cause lift by the action of water flowing over their upper and lower surfaces (Figs 1 & 9 Col 5 Lines 61-63). Two ducts (25) are formed in the top of the tank (10) and these ducts house high speed air turbines and also generators which are directly drivable by the flow of the air into and out of the tank and can supply rotation directly to the electrical generators (Fig 1 Col 6 Lines 1-5). The upward and downward motion of the tank drives the turbines. Tank (10) typically comprises a downwardly extending tube which slidably surrounds a support column (16) secured underwater in an upright position (Fig 1 Col 5 Lines 29-32).

Regarding claims 6-10, Grinsted discloses a water generator where the action of the water current (26) on hydroplanes (22), which are submerged (Fig 3 Col 5 Line 40), causes the tank to move upwards and downwards on column (16) (Fig 1 Col 6

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Lines 23-26). The upward and downward motion of the tank drives the turbines and generators. The tank floats on the surface of the water, and therefore follows the rise and fall of the wave motion, so any wave peak that approaches would produce an upward force, and any wave trough would result in a downward force. The hydroplanes are connected to the sides of tank (10) (Fig 1 Col 5 Line 24), which is a large buoyant or floating open bottomed tank that is partially submersed (Fig 3 Col 5 Line 13). Tank (10) typically comprises a downwardly extending tube which slidably surrounds a support column (16) secured underwater in an upright position (Fig 1 Col 5 Lines 29-32).

Regarding claims 11-14, Grinsted discloses a large buoyant or floating open bottomed tank (10) (Fig 3 Col 5 Line 13) using the action of water current (26) on hydroplanes to cause the tank to move upwards and downwards (Col 6 Lines 23-25). The hydroplanes are submerged and pivotable in their entirety about an axis generally perpendicular to the sides of the floating tank (Figs 3, 7, & 8 Col 5 Lines 40-42). Tank (10) typically comprises a downwardly extending tube which slidably surrounds a support column (16) secured underwater in an upright position (Fig 1 Col 5 Lines 29-32). Two ducts (25) are formed in the top of the tank (10) and these ducts house high speed air turbines and also generators which are directly drivable by the flow of the air into and out of the tank and can supply rotation directly to the electrical generators (Fig 1 Col 6 Lines 1-5). The upward and downward motion of the tank drives the turbines.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Grinsted (US 6,731,018 B1) in view Warner (US 5,514,023)**.

Regarding claim 3, Grinsted fails to disclose wherein the amplifier element has a neutral buoyancy.

However, Warner teaches the specific gravity of the body is between approximately 0.95 and 1.05 relative to such liquid, and most preferably is approximately 1.0 relative thereto so that there truly is neutral buoyancy (Col 3 Lines 11-15).

It would have been obvious to one of ordinary skill in the art to modify the hydroplanes of Grinsted's invention with the neutrally buoyant material taught by

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Warner since doing so would eliminate a large portion of resistance to the water generator's overall vertical motion.

Regarding claim 15, Grinsted fails to disclose a wave energy harvester comprising a neutral buoyancy body.

However, Warner teaches the specific gravity of the body is between approximately 0.95 and 1.05 relative to such liquid, and most preferably is approximately 1.0 relative thereto so that there truly is neutral buoyancy (Col 3 Lines 11-15).

It would have been obvious to one of ordinary skill in the art to modify the open bottomed tank of Grinsted's invention with the neutrally buoyant material taught by Warner since doing so would eliminate a large portion of resistance to the water generator's overall vertical motion.

Regarding claim 16, Grinsted discloses hydroplanes (22) protruding from the sides of tank (10) (Fig 1 Col 5 Line 24).

Regarding claim 17, Grinsted discloses two ducts (25) are formed in the top of the tank (10) and these ducts house high speed air turbines and also generators which are directly drivable by the flow of the air into and out of the tank and can supply rotation directly to the electrical generators (Fig 1 Col 6 Lines 1-5).

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Grinsted (US 6,731,018 B1) in view Warner (US 5,514,023)** as applied to claim 15 above, and further in view of **Kelly (US 6,644,027 B1)**.

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Regarding claim 18, Grinsted, as viewed by Warner, fails to disclose wherein the entire wave energy harvester has neutral buoyancy and is configured such that the harvester becomes submerged when a storm churns a water surface.

However, Kelly discloses rather than having to force the float and paddle below sea level, against their natural buoyancy, the float may be equipped with a flooding valve to assist this process by allowing air to escape from the top of the flotation chamber, while seawater enters from the bottom (Col 5 Lines 55-61). This process reduces the structure's buoyancy from positive to negative, and therefore must pass through a neutral buoyancy state.

It would have been obvious to one of ordinary skill in the art to modify Grinsted's invention, as viewed by Warner, with the buoyancy control means of Kelly since doing so would allow the water generator to submerge itself when the surface becomes unsafe.

Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Grinsted (US 6,731,018 B1) in view Kelly (US 6,644,027 B1)**.

Regarding claims 19 and 21, Grinsted fails to disclose a wave energy harvester having neutral buoyancy, wherein the wave energy harvester is further configured such that the harvester becomes submerged when a storm churns a water surface.

However, Kelly discloses rather than having to force the float and paddle below sea level, against their natural buoyancy, the float may be equipped with a flooding valve to assist this process by allowing air to escape from the top of the flotation

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chamber, while seawater enters from the bottom (Col 5 Lines 55-61). This process reduces the structure's buoyancy from positive to negative, and therefore must pass through a neutral buoyancy state.

It would have been obvious to one of ordinary skill in the art to modify Grinsted's invention with the buoyancy control means of Kelly since doing so would allow the water generator to submerge itself when the surface becomes unsafe.

Regarding claim 20, Grinsted discloses hydroplanes are placed on the side of tank (10) (Fig 1 Col 5 Line 24).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER JETTON whose telephone number is (571)270-7108. The examiner can normally be reached on Monday through Friday, 9:00AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrell McKinnon can be reached on (571)272-4797. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CHRISTOPHER JETTON/
Examiner, Art Unit 4185

/Terrell L Mckinnon/
Supervisory Patent Examiner, Art Unit 4185